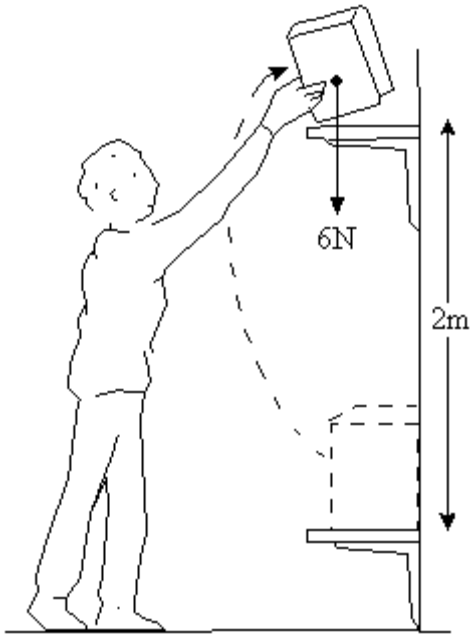
Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic: Forces (Standard Demand Questions)

Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Q1.

A book weighs 6 newtons.

A librarian picks up the book from one shelf and puts it on a shelf 2 metres higher.



(a) Calculate the work done on the book. [Show your working].

_____

_____

_____

(3)

(b) The next person to take the book from the shelf accidentally drops it.

The book accelerates at 9.8m/s².

Use this information to calculate the mass of the book. [Show your working].

_____

_____

_____

Answer _____ kg.

(3)

(c) If the book was dropped from an aeroplane high in the sky, it would accelerate to begin with. Eventually it would fall at a steady speed.

Explain, in as much detail as you can, why this happens.

_____

_____

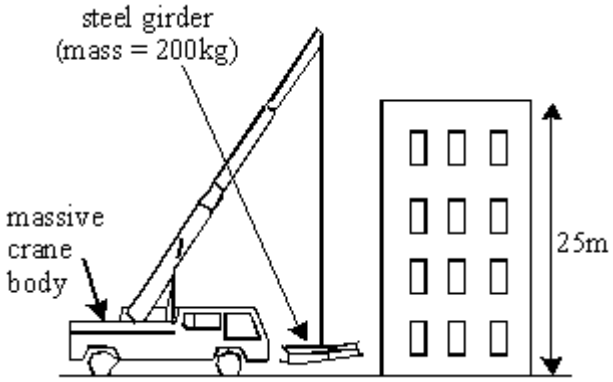
_____

(3)

(Total 9 marks)

Q2.

A crane is used to lift a steel girder to the top of a high building.



When it is lifted by the crane:

- the girder accelerates from rest to a speed of 0.6 m/s in the first 3 seconds;
- it then rises at a steady speed.

(a) Calculate the **acceleration** of the girder.

(Show your working.)

_____

_____

_____

_____

(3)

(b) (i) What is the **weight** of the steel girder?

Answer _____ N

(1)

(ii) Calculate the **power** of the crane motor as it lifts the girder at a steady speed of 0.6 m/s.

(*Show your working. You can ignore the weight of the cable and hook which is small compared to the weight of the girder.*)

_____

_____

_____

Answer _____ W

(2)

(c) A new motor is fitted to the crane. This motor accelerates the girder at 0.3 m/s^2.

Calculate the **force** which the crane applies to the girder to produce this acceleration.

(Show your working.)

_____

_____

_____

Answer _____ N

(3)

(Total 9 marks)